



Call for Papers – LABELS 2016

1st MICCAI Workshop on Large-Scale Annotation of
Biomedical Data and Expert Label Synthesis

Overview

Current storage capabilities and computational power have motivated the rise of data-driven and machine learning algorithms for facilitating the analysis of medical data. However, the acquisition and labelling of training data for biomedical applications presents very specific challenges. First, labelling often requires trained skills. Moreover, in numerous applications, the imaged data consists of 3D volumes, which are more time-consuming to annotate than 2D images. Finally, medical experts are confronted to a compromise between the size of datasets and the accuracy of their labels. With the challenges above as motivation, this workshop aims at gathering scientific contributions towards:

- The reduction of labelling efforts during the construction of new medical datasets,
- The effective use of existing labelled or unlabelled data from images or other sources,
- An increased accuracy of the provided labels, including fusion of annotations from several sources and better assessment of inter-expert variability and label uncertainty.

The goal of the workshop is to promote the development and scientific exchange of algorithms to assist the annotation process by making it for example more general, more accurate, faster or more intuitive for the medical experts. To this end, we are calling for paper submissions addressing the issues above by means of approaches from the following or **related areas**:

- Active learning
- Semi-supervised learning
- Reinforcement learning
- Domain adaptation and transfer learning
- Crowd-sourcing annotations
- Fusion of labels from different sources
- Data augmentation
- Modelling of label uncertainty
- Visualisation and human-computer interaction

Because data annotation and expert labelling is strongly grounded in practical considerations, we welcome not only research contributions, but also encourage submitters to share **war stories** and practical feedback on successful or insightfully unsuccessful data collection experiences in real world settings.

Submission and Reviewing Process

We are calling for:

- Full 8-10 page **original contributions**, which will be published as a **proceedings in Lecture Notes in Computer Science LNCS** (www.springer.com/lncs)
- Short 2-4 page **abstracts**
- **Demos** that will be shown during an online demo/video session. These can be about already published work (Submit a demo abstract)

The reviewing process will be single-blind. The format for paper submission is the same as the MICCAI main conference ([Guidelines](#))

Important Dates

- Paper Submission: **June 20th, 2016**
- Notification of Acceptance: July 29th, 2016
- Camera-ready version: August 10th, 2016
- Workshop Date: October 21st, 2016

Invited Speakers

- Marco Loog, Pattern Recognition Laboratory, TU Delft
- Pascal Fua, Computer Vision Laboratory, Ecole Polytechnique Fédérale de Lausanne, Switzerland

Organisation

- Diana Mateus, Technical University of Munich, Germany
- Loic Peter, Technical University of Munich, Germany
- Gustavo Carneiro, University of Adelaide, Australia
- Marco Loog, Technical University of Delft, The Netherlands
- Julien Cornebise, Google DeepMind, United Kingdom

Contact

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